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**1 Fast detection of communication patterns in distributed executions**

Thomas Kunz, Michiel F. H. Seuren

November 1997 **Proceedings of the 1997 conference of the Centre for Advanced Studies on Collaborative research**Full text available: [pdf\(4.21 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Understanding distributed applications is a tedious and difficult task. Visualizations based on process-time diagrams are often used to obtain a better understanding of the execution of the application. The visualization tool we use is Poet, an event tracer developed at the University of Waterloo. However, these diagrams are often very complex and do not provide the user with the desired overview of the application. In our experience, such tools display repeated occurrences of non-trivial commun ...

**2 Three-dimensional object recognition**

Paul J. Besl, Ramesh C. Jain

March 1985 **ACM Computing Surveys (CSUR)**, Volume 17 Issue 1Full text available: [pdf\(7.76 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

A general-purpose computer vision system must be capable of recognizing three-dimensional (3-D) objects. This paper proposes a precise definition of the 3-D object recognition problem, discusses basic concepts associated with this problem, and reviews the relevant literature. Because range images (or depth maps) are often used as sensor input instead of intensity images, techniques for obtaining, processing, and characterizing range data are also surveyed.

**3 Status report of the graphic standards planning committee of ACM/SIGGRAPH: State-of-the-art of graphic software packages**

Computer Graphics staff

September 1977 **ACM SIGGRAPH Computer Graphics**, Volume 11 Issue 3Full text available: [pdf\(9.03 MB\)](#) Additional Information: [full citation](#), [references](#)**4 Model-based object recognition in dense-range images—a review**

Farshid Arman, J. K. Aggarwal

March 1993 **ACM Computing Surveys (CSUR)**, Volume 25 Issue 1Full text available: [pdf\(3.42 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

The goal in computer vision systems is to analyze data collected from the environment and derive an interpretation to complete a specified task. Vision system tasks may be divided

into data acquisition, low-level processing, representation, model construction, and matching subtasks. This paper presents a comprehensive survey of model-based vision systems using dense-range images. A comprehensive survey of the recent publications in each subtask pertaining to dense-range image object recogni ...

**Keywords:** 3D object recognition, 3D representations, CAD-based vision, dense-range images, image understanding

## 5 A unified framework for model-based clustering

Shi Zhong, Joydeep Ghosh

December 2003 **The Journal of Machine Learning Research**, Volume 4

Full text available:  pdf(851.48 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Model-based clustering techniques have been widely used and have shown promising results in many applications involving complex data. This paper presents a unified framework for probabilistic model-based clustering based on a bipartite graph view of data and models that highlights the commonalities and differences among existing model-based clustering algorithms. In this view, clusters are represented as probabilistic models in a model space that is conceptually separate from the data space. For ...

## 6 Smoothed analysis of algorithms: Why the simplex algorithm usually takes polynomial time

Daniel A. Spielman, Shang-Hua Teng

May 2004 **Journal of the ACM (JACM)**, Volume 51 Issue 3

Full text available:  pdf(1.05 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We introduce the *smoothed analysis of algorithms*, which continuously interpolates between the worst-case and average-case analyses of algorithms. In smoothed analysis, we measure the maximum over inputs of the expected performance of an algorithm under small random perturbations of that input. We measure this performance in terms of both the input size and the magnitude of the perturbations. We show that the simplex algorithm has *smoothed complexity* polynomial in the input size and ...

**Keywords:** Simplex method, complexity, perturbation, smoothed analysis

## 7 Terrain database interoperability issues in training with distributed interactive simulation

Guy A. Schiavone, S. Sureshchandran, Kenneth C. Hardis

July 1997 **ACM Transactions on Modeling and Computer Simulation (TOMACS)**, Volume 7 Issue 3

Full text available:  pdf(443.34 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

In Distributed Interactive Simulation (DIS), each participating node is responsible for maintaining its own model of the synthetic environment. Problems may arise if significant inconsistencies are allowed to exist between these separate world views, resulting in unrealistic simulation results or negative training, and a corresponding degradation of interoperability in a DIS simulation exercise. In the DIS community, this is known as the simulator terrain database (TDB) correlation problem. ...

**Keywords:** distributed interactive simulation, terrain databases

## 8 Distance-based outliers: algorithms and applications

Edwin M. Knorr, Raymond T. Ng, Vladimir Tucakov

February 2000 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 8 Issue 3-4

Full text available:  pdf(613.90 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

This paper deals with finding outliers (exceptions) in large, multidimensional datasets. The identification of outliers can lead to the discovery of truly unexpected knowledge in areas such as electronic commerce, credit card fraud, and even the analysis of performance statistics of professional athletes. Existing methods that we have seen for finding outliers can only deal efficiently with two dimensions/attributes of a dataset. In this paper, we study the notion of DB (*distance-based* ...)

**Keywords:** Algorithms, Data mining, Data mining applications, Outliers/exceptions

## 9 A survey of image registration techniques

Lisa Gottesfeld Brown

December 1992 **ACM Computing Surveys (CSUR)**, Volume 24 Issue 4

Full text available:  pdf(5.20 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Registration is a fundamental task in image processing used to match two or more pictures taken, for example, at different times, from different sensors, or from different viewpoints. Virtually all large systems which evaluate images require the registration of images, or a closely related operation, as an intermediate step. Specific examples of systems where image registration is a significant component include matching a target with a real-time image of a scene for target recognition, mon ...

**Keywords:** image registration, image warping, rectification, template matching

## 10 VLSI cell placement techniques

K. Shahookar, P. Mazumder

June 1991 **ACM Computing Surveys (CSUR)**, Volume 23 Issue 2

Full text available:  pdf(5.28 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

VLSI cell placement problem is known to be NP complete. A wide repertoire of heuristic algorithms exists in the literature for efficiently arranging the logic cells on a VLSI chip. The objective of this paper is to present a comprehensive survey of the various cell placement techniques, with emphasis on standard cell and macro placement. Five major algorithms for placement are discussed: simulated annealing, force-directed placement, min-cut placement, placement by numerical optimization, a ...

**Keywords:** VLSI, floor planning, force-directed placement, gate array, genetic algorithm, integrated circuits, layout, min-cut, physical design, placement, simulated annealing, standard cell

## 11 A survey of methods for recovering quadrics in triangle meshes

Sylvain Petitjean

June 2002 **ACM Computing Surveys (CSUR)**, Volume 34 Issue 2

Full text available:  pdf(3.91 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In a variety of practical situations such as reverse engineering of boundary representation from depth maps of scanned objects, range data analysis, model-based recognition and algebraic surface design, there is a need to recover the shape of visible surfaces of a dense 3D point set. In particular, it is desirable to identify and fit simple surfaces of known type wherever these are in reasonable agreement with the data. We are interested in the class of quadric surfaces, that is, algebraic surfa ...

**Keywords:** Data fitting, geometry enhancement, local geometry estimation, mesh fairing, shape recovery

**12 A comparative study of language support for generic programming**

Ronald Garcia, Jaakko Jarvi, Andrew Lumsdaine, Jeremy Siek, Jeremiah Willcock

October 2003 **ACM SIGPLAN Notices , Proceedings of the 18th ACM SIGPLAN**

**conference on Object-oriented programming, systems, languages, and applications**, Volume 38 Issue 11

Full text available:  pdf(237.38 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Many modern programming languages support basic generic programming, sufficient to implement type-safe polymorphic containers. Some languages have moved beyond this basic support to a broader, more powerful interpretation of generic programming, and their extensions have proven valuable in practice. This paper reports on a comprehensive comparison of generics in six programming languages: C++, Standard ML, Haskell, Eiffel, Java (with its proposed generics extension), and Generic C. By implementi ...

**Keywords:** C#, C++, Eiffel, Haskell, Java, generic programming, generics, polymorphism, standard ML

**13 A software engineering perspective on algorithmics**

Karsten Weihe

March 2001 **ACM Computing Surveys (CSUR)**, Volume 33 Issue 1

Full text available:  pdf(1.62 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

An algorithm component is an implementation of an algorithm which is not intended to be a stand-alone module, but to perform a specific task within a large software package or even within several distinct software packages. Therefore, the design of algorithm components must also incorporate software-engineering aspects. A key design goal is adaptability. This goal is important for maintenance throughout a project, prototypical development, and reuse in new, unforseen contex ...

**Keywords:** algorithm engineering

**14 The Quadtree and Related Hierarchical Data Structures**

Hanan Samet

June 1984 **ACM Computing Surveys (CSUR)**, Volume 16 Issue 2

Full text available:  pdf(4.87 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**15 Computational strategies for object recognition**

Paul Suetens, Pascal Fua, Andrew J. Hanson

March 1992 **ACM Computing Surveys (CSUR)**, Volume 24 Issue 1

Full text available:  pdf(6.37 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

This article reviews the available methods for automated identification of objects in digital images. The techniques are classified into groups according to the nature of the computational strategy used. Four classes are proposed: (1) the simplest strategies, which work on data appropriate for feature vector classification, (2) methods that match models to symbolic data structures for situations involving reliable data and complex models, (3) approaches that fit models to the photometry and ...

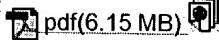
**Keywords:** image understanding, model-based vision, object recognition

**16 The FINITE STRING Newsletter: Abstracts of current literature**

Computational Linguistics Staff

January 1987 **Computational Linguistics**, Volume 13 Issue 1-2

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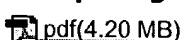


## **17 Geographic Data Processing**

George Nagy, Sharad Wagle

June 1979 **ACM Computing Surveys (CSUR)**, Volume 11 Issue 2

Full text available:



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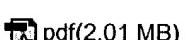


## **18 Anisotropic diffusion for Monte Carlo noise reduction**

Michael D. McCool

April 1999 **ACM Transactions on Graphics (TOG)**, Volume 18 Issue 2

Full text available:



[pdf\(2.01 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Monte Carlo sampling can be used to estimate solutions to global light transport and other rendering problems. However, a large number of observations may be needed to reduce the variance to acceptable levels. Rather than computing more observations within each pixel, if spatial coherence exists in image space it can be used to reduce visual error by averaging estimators in adjacent pixels. Anisotropic diffusion is a space-variant noise reduction technique that can selectively preserve text ...

**Keywords:** Monte Carlo methods, anisotropic diffusion, global illumination, image processing, image synthesis, light transport, noise reduction, space-variant filtering

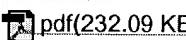


## **19 Dynamic vp-tree indexing for $n$ -nearest neighbor search given pair-wise distances**

Ada Wai-chee Fu, Polly Mei-shuen Chan, Yin-Ling Cheung, Yiu Sang Moon

July 2000 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 9 Issue 2

Full text available:



[pdf\(232.09 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [index terms](#)

For some multimedia applications, it has been found that domain objects cannot be represented as feature vectors in a multidimensional space. Instead, pair-wise distances between data objects are the only input. To support content-based retrieval, one approach maps each object to a  $k$ -dimensional ( $k$ -d) point and tries to preserve the distances among the points. Then, existing spatial access index methods such as the R-trees and KD-trees can support fast searching on the resulting

**Keywords:** Content-based retrieval, Indexing, Nearest neighbor search, Pair-wise distances, Updating

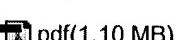


## **20 Visual search and mouse-pointing in labeled versus unlabeled two-dimensional visual hierarchies**

Anthony J. Hornof

September 2001 **ACM Transactions on Computer-Human Interaction (TOCHI)**, Volume 8 Issue 3

Full text available:



[pdf\(1.10 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

An experiment investigates (1) how the physical structure of a computer screen layout affects visual search and (2) how people select a found target object with a mouse. Two structures are examined---labeled visual hierarchies (groups of objects with one label per group) and unlabeled visual hierarchies (groups without labels). Search and selection times were separated by imposing a point-completion deadline that discouraged participants from moving the mouse until they found the target. The obs ...

**Keywords:** Fitts' law, mouse pointing, screen layout design, visual search

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 Steven K. Reinhardt, Mark D. Hill, James R. Larus, Alvin R. Lebeck, James C. Lewis, David A. Wood  
 June 1993 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 1993 ACM SIGMETRICS conference on Measurement and modeling of computer systems**, Volume 21 Issue 1  
 Full text available:  pdf(1.40 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

- 2 [Data page layouts for relational databases on deep memory hierarchies](#)   
 Anastassia Ailamaki, David J. DeWitt, Mark D. Hill  
 November 2002 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 11 Issue 3  
 Full text available:  pdf(593.86 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Relational database systems have traditionally optimized for I/O performance and organized records sequentially on disk pages using the N-ary Storage Model (NSM) (a.k.a., slotted pages). Recent research, however, indicates that cache utilization and performance is becoming increasingly important on modern platforms. In this paper, we first demonstrate that in-page data placement is the key to high cache performance and that NSM exhibits low cache utilization on modern platforms. Next, we ...

**Keywords:** Cache-conscious database systems, Disk page layout, Relational data placement

- 3 [Experience Using Multiprocessor Systems—A Status Report](#)   
 Anita K. Jones, Peter Schwarz  
 June 1980 **ACM Computing Surveys (CSUR)**, Volume 12 Issue 2  
 Full text available:  pdf(4.48 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

- 4 [IPStash: a Power-Efficient Memory Architecture for IP-lookup](#)   
 Stefanos Kaxiras, Georgios Keramidas  
 December 2003 **Proceedings of the 36th Annual IEEE/ACM International Symposium on Microarchitecture**  
 Full text available:  pdf(293.97 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)  


High-speed routers often use commodity, fully-associative, TCAMs (Ternary Content

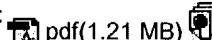
AddressableMemories) to perform packet classification and routing(IP-lookup). We propose a memory architecture calledIPStash to actasa TCAMreplacement,offering atthesame time, better functionality, higher performance, and significant power savings. The premise of our workis that full associativity is not necessary for IP-lookup.Rather, we show that the required associativity is simply a function of the routing table s ...

## 5 The design and performance of a conflict-avoiding cache

Nigel Topham, Antonio González, José González

December 1997 **Proceedings of the 30th annual ACM/IEEE international symposium on Microarchitecture**

Full text available:



[pdf\(1.21 MB\)](#)



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High performance architectures depend heavily on efficient multi-level memory hierarchies to minimize the cost of accessing data. This dependence will increase with the expected increases in relative distance to main memory. There have been a number of published proposals for cache conflict-avoidance schemes. We investigate the design and performance of conflict-avoiding cache architectures based on polynomial modulus functions, which earlier research has shown to be highly effective at reducing ...

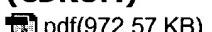
**Keywords:** cache architecture design, cache storage, conflict miss ratios, conflict-avoiding cache performance, data access cost minimization, high performance architectures, main memory, multi-level memory hierarchies, polynomial modulus functions

## 6 Scalable parallel algorithms for interactive visualization of curved surfaces

Subodh Kumar, Chun-Fa Chang, Dinesh Manocha

November 1996 **Proceedings of the 1996 ACM/IEEE conference on Supercomputing (CDROM)**

Full text available:



[pdf\(972.57 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

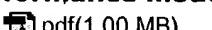
We present efficient parallel algorithms for interactive display of higher order surfaces on current graphics systems. At each frame, these algorithms approximate the surface by polygons and rasterize them over the graphics pipeline. The time for polygon generation for each surface primitive varies between successive frames and we address issues in distributing the load across processors for different environments. This includes algorithms to statically distribute the primitives to reduce d ...

## 7 Hardware monitoring of real-time aerospace computer systems

D. R. Partridge, R. E. Card

March 1976 **Proceedings of the 1976 ACM SIGMETRICS conference on Computer performance modeling measurement and evaluation**

Full text available:



[pdf\(1.00 MB\)](#)

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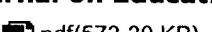
Hardware monitoring has proven to be a useful means for measuring the performance of computer systems generally, and is particularly attractive for use on real-time systems due to its attribute of non-interference with system operation. This technique is uniquely able to quantify precisely the interactions between hardware and software, which must be completely understood in these systems. In this paper, we report the application of a commercially-developed hardware monitor to two real-time ...

## 8 The Sloop ISA and the SMOK toolkit

B. Dugan, J. Zahorjan

March 2002 **Journal on Educational Resources in Computing (JERIC)**, Volume 2 Issue 1

Full text available:



[pdf\(573.30 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Sloop-SMOK is a toolkit designed to improve the student design experience in a machine organization course taken by undergraduates in their first year as computer science majors. Students in this course have had some programming experience, and may have taken a one-quarter digital design course. Before Sloop-SMOK, assignments in this course were

typically assembly language program implementations of functions related to architecture. The major goals in building Sloop-SMOK were to improve the rel ...

**Keywords:** Computer architecture, education, simulator

## 9 Query evaluation techniques for large databases

Goetz Graefe

June 1993 **ACM Computing Surveys (CSUR)**, Volume 25 Issue 2

Full text available:  pdf(9.37 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Database management systems will continue to manage large data volumes. Thus, efficient algorithms for accessing and manipulating large sets and sequences will be required to provide acceptable performance. The advent of object-oriented and extensible database systems will not solve this problem. On the contrary, modern data models exacerbate the problem: In order to manipulate large sets of complex objects as efficiently as today's database systems manipulate simple records, query-processi ...

**Keywords:** complex query evaluation plans, dynamic query evaluation plans, extensible database systems, iterators, object-oriented database systems, operator model of parallelization, parallel algorithms, relational database systems, set-matching algorithms, sort-hash duality

## 10 Process migration

September 2000 **ACM Computing Surveys (CSUR)**, Volume 32 Issue 3

Full text available:  pdf(1.24 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Process migration is the act of transferring a process between two machines. It enables dynamic load distribution, fault resilience, eased system administration, and data access locality. Despite these goals and ongoing research efforts, migration has not achieved widespread use. With the increasing deployment of distributed systems in general, and distributed operating systems in particular, process migration is again receiving more attention in both research and product development. As hi ...

**Keywords:** distributed operating systems, distributed systems, load distribution, process migration

## 11 Living in a dynamic world

R. L. Andersson

November 1999 **Proceedings of 1986 ACM Fall joint computer conference**

Full text available:  pdf(1.18 MB)

Additional Information: [full citation](#), [references](#), [index terms](#)

## 12 Curriculum 68: Recommendations for academic programs in computer science: a report of the ACM curriculum committee on computer science

William F. Atchison, Samuel D. Conte, John W. Hamblen, Thomas E. Hull, Thomas A. Keenan, William B. Kehl, Edward J. McCluskey, Silvio O. Navarro, Werner C. Rheinboldt, Earl J. Schweißeppe, William Viavant, David M. Young

March 1968 **Communications of the ACM**, Volume 11 Issue 3

Full text available:  pdf(6.63 MB)

Additional Information: [full citation](#), [references](#), [citations](#)

**Keywords:** computer science academic programs, computer science bibliographies, computer science courses, computer science curriculum, computer science education,

computer science graduate programs, computer science undergraduate programs

**13 A virtual machine emulator for performance evaluation**

M. D. Canon, D. H. Fritz, J. H. Howard, T. D. Howell, M. F. Mitoma, J. Rodriguez-Rosell  
February 1980 **Communications of the ACM**, Volume 23 Issue 2

Full text available:  pdf(865.59 KB) Additional Information: [full citation](#), [references](#), [citations](#)

**Keywords:** computer system simulation, performance evaluation, virtual machines

**14 A history of the Promis technology: an effective human interface**

Jan Schultz  
January 1986 **Proceedings of the ACM Conference on The history of personal workstations**

Full text available:  pdf(2.61 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Scientific computing systems for individuals were pioneered early at Hewlett-Packard, beginning with the 9100A Desktop Calculator in 1968. Extensions of this first machine were soon seen in Personal Peripherals, such as Printers, Tape Cartridges, and Plotters, and followed by Graphic CRT Displays. By early 1972, the Desktop unit had been augmented by a very powerful Pocket Calculator, the ground-breaking HP 35A. This paper traces the evolution of these machines to the present day, ...

**15 Memory access patterns of occlusion-compatible 3D image warping**

William R. Mark, Gary Bishop  
August 1997 **Proceedings of the ACM SIGGRAPH/EUROGRAPHICS workshop on Graphics hardware**

Full text available:  pdf(1.22 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** 3D image warp, image-based rendering, occlusion-compatible warp order

**16 Static scheduling algorithms for allocating directed task graphs to multiprocessors**

Yu-Kwong Kwok, Ishfaq Ahmad  
December 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 4

Full text available:  pdf(723.58 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Static scheduling of a program represented by a directed task graph on a multiprocessor system to minimize the program completion time is a well-known problem in parallel processing. Since finding an optimal schedule is an NP-complete problem in general, researchers have resorted to devising efficient heuristics. A plethora of heuristics have been proposed based on a wide spectrum of techniques, including branch-and-bound, integer-programming, searching, graph-theory, randomization, genetic ...

**Keywords:** DAG, automatic parallelization, multiprocessors, parallel processing, software tools, static scheduling, task graphs

**17 Computer Communication Networks: Approaches, Objectives, and Performance Considerations**

Stephen R. Kimbleton, G. Michael Schneider  
September 1975 **ACM Computing Surveys (CSUR)**, Volume 7 Issue 3

Full text available:  pdf(3.99 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**18 Parallel progressive rendering of animation sequences at interactive rates on distributed-memory machines**

Amit Reisman, Craig Gotsman, Assaf Schuster

October 1997 **Proceedings of the IEEE symposium on Parallel rendering**Full text available:  pdf(1.42 MB)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** animation, distributed memory, load-balance, message passing, parallel processing, ray tracing**19 General applications: Complex and interconnected systems: optimistic parallel simulation of a large-scale view storage system**

Garrett Yaun, Christopher D. Carothers, Sibel Adali, David Spooner

December 2001 **Proceedings of the 33nd conference on Winter simulation**Full text available:  pdf(139.73 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

In this paper we present the design and implementation of a complex view storage system model that is suitable for execution on a optimistic parallel simulation engine. What is unique over other optimistic systems is that reverse computation as opposed to state-saving is used to support the rollback mechanism. In this model, a hierarchy of view storage servers are connected to an array of client-side local disks. The term *view* refers to the output or result of a query made on the part of ...

**20 Accurate color reproduction for computer graphics applications**

Bruce J. Lindbloom

July 1989 **ACM SIGGRAPH Computer Graphics , Proceedings of the 16th annual conference on Computer graphics and interactive techniques**, Volume 23 Issue 3Full text available:  pdf(5.84 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A method is presented for accurate color reproduction among a wide variety of display devices. The method is very general, in that it may be applied to virtually any color display device. Its generality has been demonstrated by application to color monitors, film recorders, electronic pre-press systems and color hardcopy devices. The algorithm has been used to accurately translate between device dependent and device independent color specifications and to translate from one device dependent color ...

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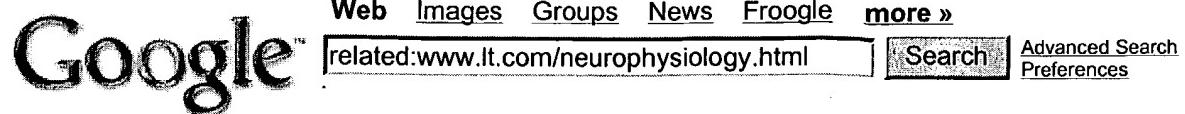
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A random process consisting of a sequence of discrete steps of fixed length. The random thermal perturbations in a liquid are responsible for a random walk phenomenon known as Brownian motion, and the collisions of molecules in a gas are a random walk responsible for diffusion. Random walks have interesting mathematical properties that vary greatly depending on the dimension in which the walk occurs and whether it is confined to a lattice.

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